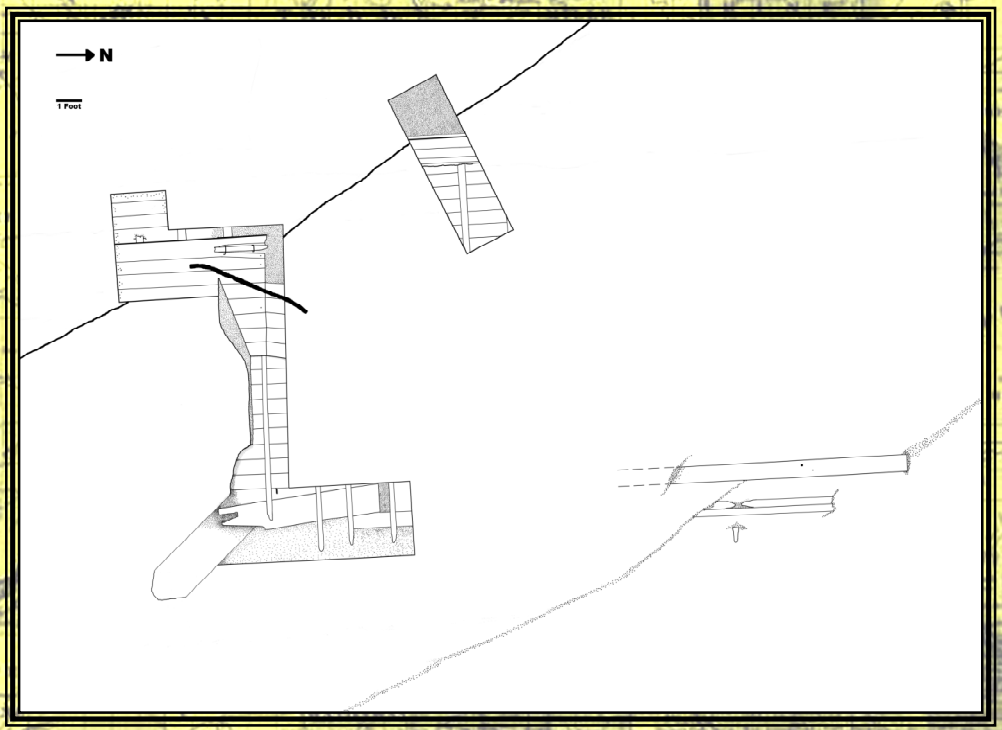
Maritime Heritage Minnesota

Ann Merriman
Christopher Olson

Red Mill Wreck (21-AK-122) Report 2013



© 2013
Ann Merriman, Christopher Olson, and Maritime Heritage Minnesota

Acknowledgments

Maritime Heritage Minnesota (MHM) thanks Joan Christensen for allowing us to continually access the Headwaters Mississippi River across her land. Mrs. Christensen's cooperation has allowed MHM to access not only the Red Mill Wreck, but the *Swan* Wreck as well. MHM thanks Judy Muller and Ardy Becklin for their generous donations that made this project possible. We also thank Ardy and Jack Becklin for their in-kind support of this project. Lastly, MHM thanks our Board Members Michael F. Kramer, Deborah Handschin, and Steven R. Hack for their efforts and support.

Cover: The Red Mill Wreck site plan incorporating data from 2012 and 2013.

© 2013
Ann Merriman, Christopher Olson, and Maritime Heritage Minnesota

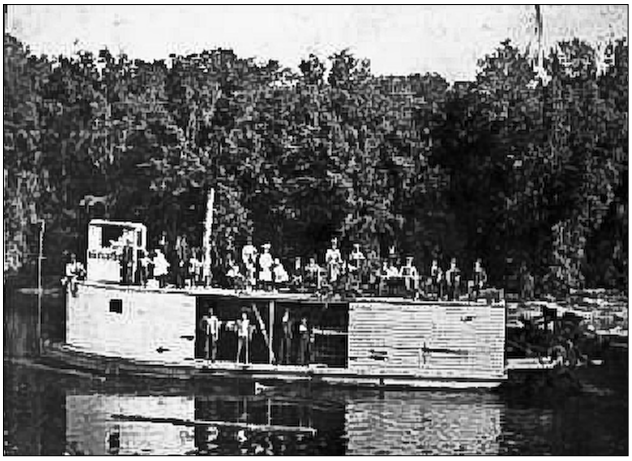
MHM IS A 501.(c).3 NON-PROFIT CORPORATION DEDICATED TO THE DOCUMENTATION, CONSERVATION, AND PRESERVATION OF MINNESOTA'S FINITE MARITIME CULTURAL RESOURCES

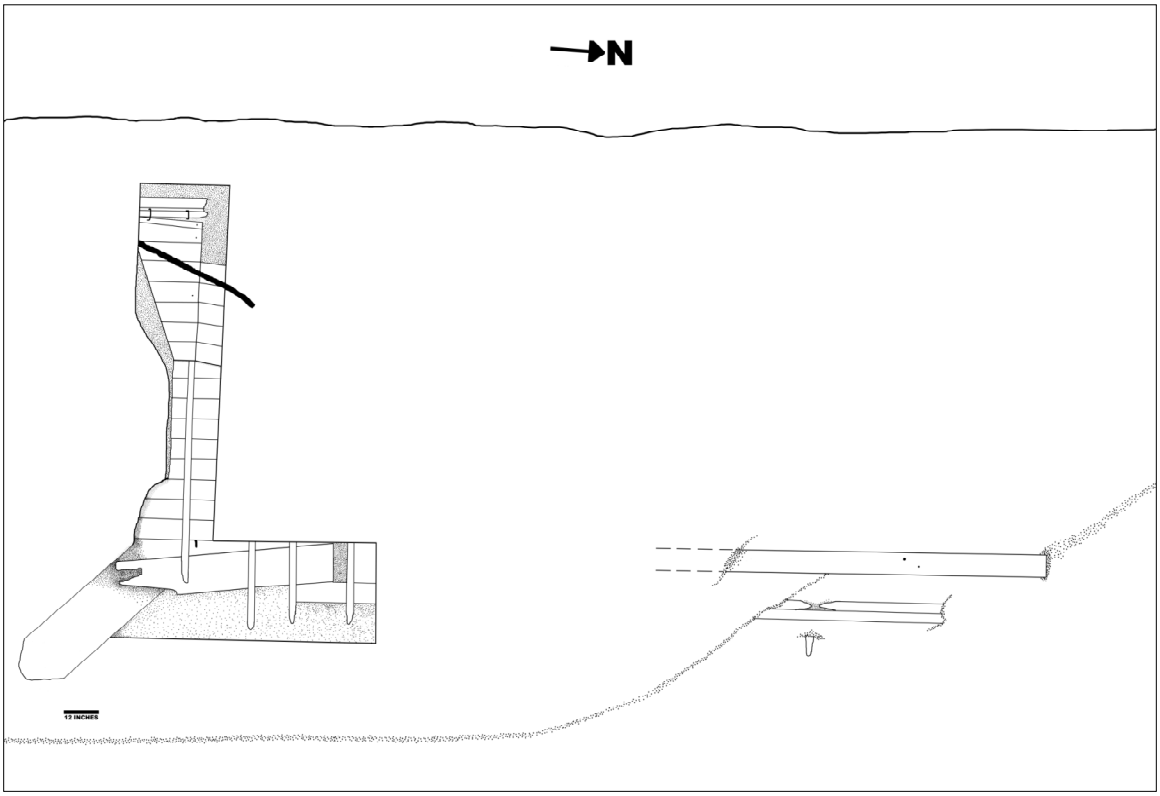
Red Mill Wreck (21-AK-122) Report 2013

Maritime Heritage Minnesota (MHM) technically located the Red Mill Wreck (21-AK-122) in August 2008 during a walking survey of the Headwater Mississippi River shoreline in Aitkin during low water conditions. The area studied included the steamer *Swan* Wreck that lies to the east of the mouth of the Ripple River and a section to the west, extending downriver about 200 yards. MHM located some cultural remains in the form of small artifacts, evidence of a mooring place, burned brick concentrations, and worked wooden planks. On 26 September 2012, again during low water conditions, returned to investigate the worked wooden planks. MHM located a floor – part of a boat frame that is attached to the bottom of a hull – within 20 minutes of clearing silt from a plank and a smaller timber that was wedged above a large snag that was protruding out of the siltbank. By the end of the workday, in test Trench 1, MHM had uncovered what appeared to be a wreck with bottom hull strakes with four floors attached to them, as well as ceiling planking. MHM returned the next day and extended the L-shaped test trench toward the west in search of a gunwale – and located what was mistaken for the gunwale at that time. The part of the wreck that MHM uncovered is a raised part of the hull with two iron U-bolts – but it was not the gunwale.

MHM documented the portion of the wreck exposed in Trench 1, established a datum, and filed a Minnesota Archaeological Site Form with the Office of the State Archaeologist and received a site number for the Red Mill Wreck (21-AK-122). The reasoning behind the name 'Red Mill Wreck' references the informal name given to the G. W. Knox Saw and Planing Mill. In early September 1890, "the spur track to the red mill and the old steamboat landing is completed and ready for business". Also, the steamer *Andy Gibson* used to moor at this site prior to that time since she "stove a hole in her side on her down trip from Sandy Lake, but the heroic work of her crew saved her from sinking. She lies at her old dock near the red mill". MHM determined that the Knox Mill was also known as the Red Mill in a newspaper article written by G. W. Knox's son Walter F. Knox. Knox wrote that his father and uncle had a disagreement while at the mill and he referred to his father as "G. W. Knox owner of the "Red Mill" at the mouth of the Mud River" (*Aitkin Age* 1890; Knox 1960). The wreck may be the *Walter Taylor*, a steamer that sank at or near the location of the Red Mill Wreck; see MHM's *Aitkin County Shipwrecks Project Report* for more details about that year's wreck documentation and a history of the steamer.

Sternwheeler *Walter Taylor* on the Headwaters Mississippi River
(Aitkin County Historical Society).





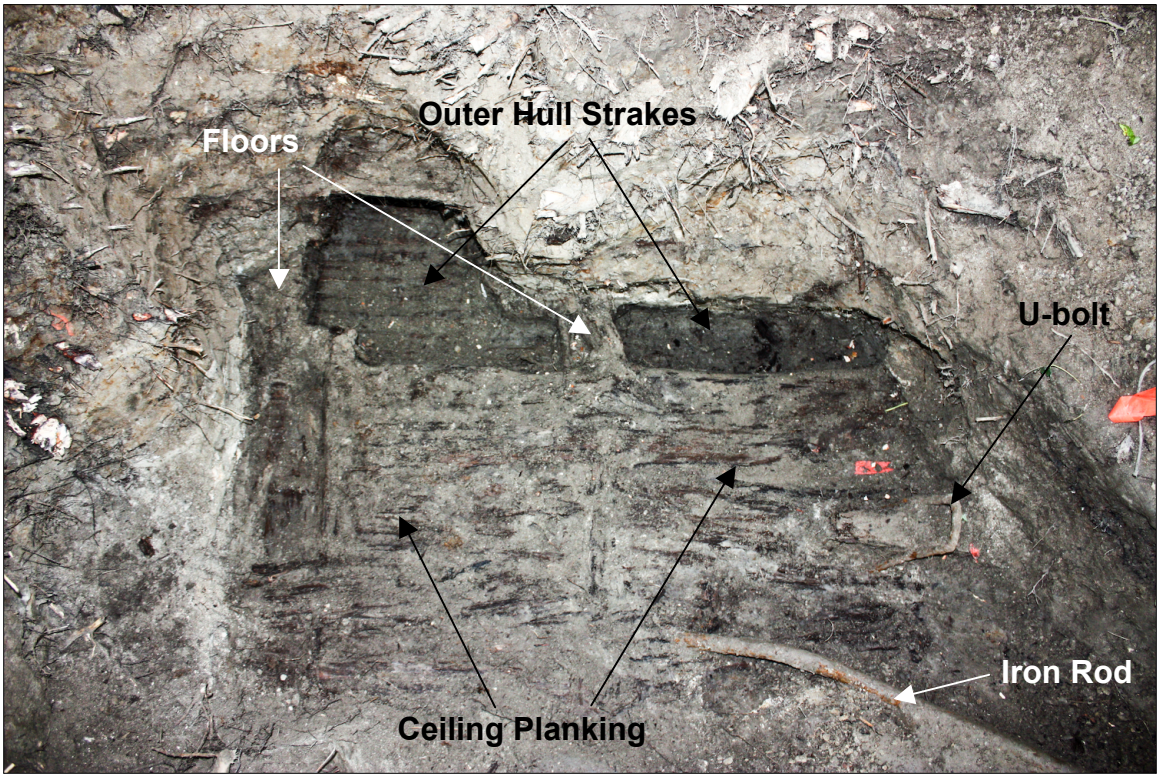
The Red Mill Wreck (21-AK-122) in 2012.

On 27 August 2013 MHM returned to the Red Mill Wreck site to open new test trenches in order to expose new sections of the wreck associated with the portions documented in 2012. The small rectangular-shaped Trench 2 was opened at the western end of Trench 1 to the south and orange 'warning' tape that MHM uses to mark previously excavated areas was readily located just at the edge of the trench to the north. Trench 1's southern-most U-bolt was revealed and MHM used it as a datum for measurements throughout the 2013 work. MHM extended Trench 2 westward into the riverbank and the trench was 4 feet long extending southward. On 28 August 2013 the trench was enlarged further west into the bank and under the trees, changing its shape from rectangular to 'L'-shaped. MHM encountered extensive root systems of the shoreline's trees in the upper levels. Because of this obstruction, Trench 2 was extended westward only at the bottom to a maximum of three feet at the top of the 'L'. In Trench 2 MHM located ceiling planking attached to floors that were exposed on the west end of the trench due to missing ceiling planking. At these points the inner surface of the outer hull strakes was visible. An iron rod that 'ran through' Trench 1 in 2012 was relocated and was found to be slotted through the ceiling planking. When intact, the rod would presumably protrude the ceiling planking vertically and act as a support for a structure that is now gone. A good portion of the wreck is located under decades-old forest and too much damage to the root system could undermine the health of the trees. The tree roots, while a hindrance, also serve to protect the wreck from siltbank erosion and dislodgement of cultural resources. MHM is concerned about tree falls on or near the wreck, so it was decided to open another test trench to the north, further away from the tree roots.

The Red Mill Wreck site prior to beginning work on the morning of 27 August 2013.

The outer hull strakes and floor seen here wedged upward by an old snag were the first indication that a submerged cultural resource might be buried in this siltbank. The snag might be the main reason most of the wreck's bottom hull has not washed away over the decades.

Christopher Olson cleaning the outer hull strakes where the ceiling planking is missing in Trench 2.



'L'-shaped Trench 2 contains intact ceiling planking, two floors visible near the top, the terminus for the iron rod, and outer hull strakes. The orange tape near the U-bolt was placed in 2012 and the U-bolt is in Trench 2.

The southeastern corner of Trench 3 was opened 8.9 feet from the U-bolt datum in Trench 1 directly to the north. The trench was 2 feet wide north to south on its eastern end and at its largest, 3 feet on its western end. The rectangular-shaped trench ultimately extended 6.5 feet east to west after two successive size increases on 29 and 30 August 2013. Initially MHM interpreted the wreck's side as a log that had intruded onto the wreck. However, upon careful cleaning and excavation, the 'log' was three strakes of the wreck's outer hull that had collapsed inward toward the vessel's centerline, probably due to the weight of the soil matrix accumulating above it over time. At this time MHM is confident that while the wreck's side may be intact, a rubrail or caprail is missing, indicating the actual gunwale has not survived at least on this part of the wreck. Two floors were exposed in Trench 3 and no ceiling planking had survived in this area, exposing the inner surface of the outer hull strakes throughout the trench.

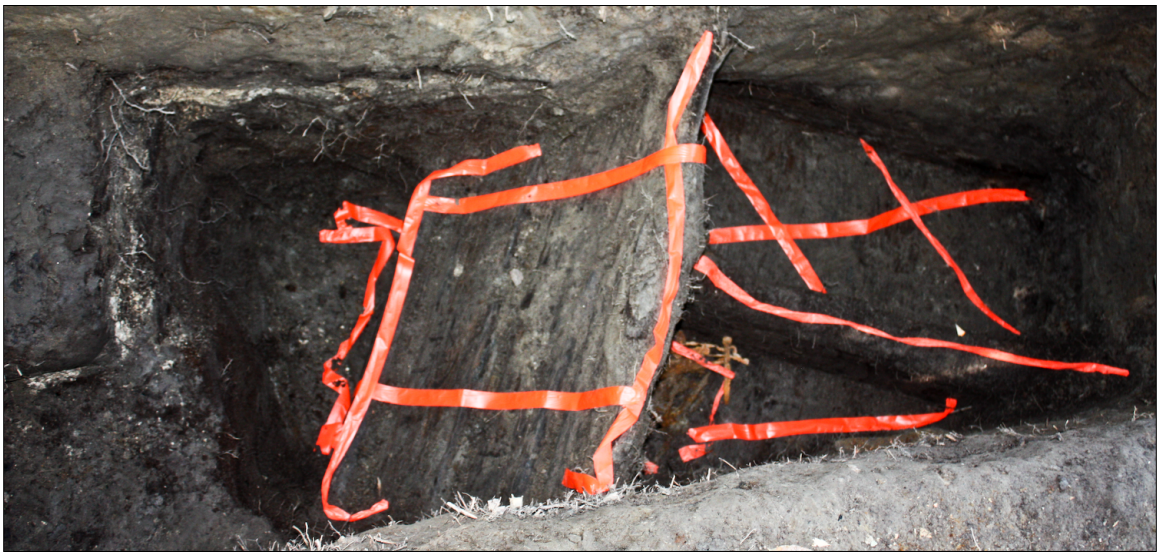
Above: Trench 3 looking toward the east. The three wide strakes in the middle of the trench are the side of the wreck collapsed toward the centerline.

Left: Trench 3 from above. The trench has 2 floors attached to intact outer hull strakes and the 'wall' running through it is the side of the hull collapsed inward.

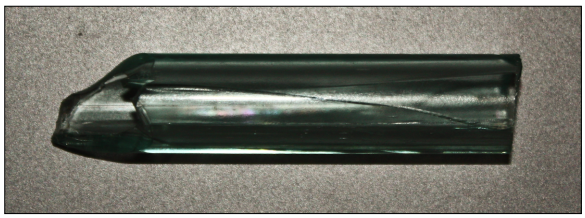
The fourth hull strake extant is not collapsed inward and butts up against the strake that creates the turn of the bilge and gives the wreck a hard chine.

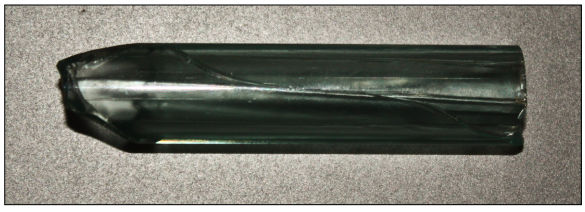
Trench 2 (in the foreground) in relation to Trench 3 to the north.

Prior to back-filling MHM placed orange tape on the exposed areas of the wreck to mark these documented sections as seen below.



Throughout Trenches 2 and 3 MHM located metal fittings, glass, and some small pieces of coal strewn in the matrix and on the wreck, moved about over the decades by shifting silt and river currents. One glass fragment was part of a sight glass, a small tube used to measure the amount of water in a steam boiler. The sight glass fragment and the presence of coal strengthen MHM's contention that the wreck might be *Walter Taylor* or another steamer. MHM collected the sight glass, two small pieces of coal, and some severed wooden hull fragments as samples. The wood will be sent to a lab for typing.



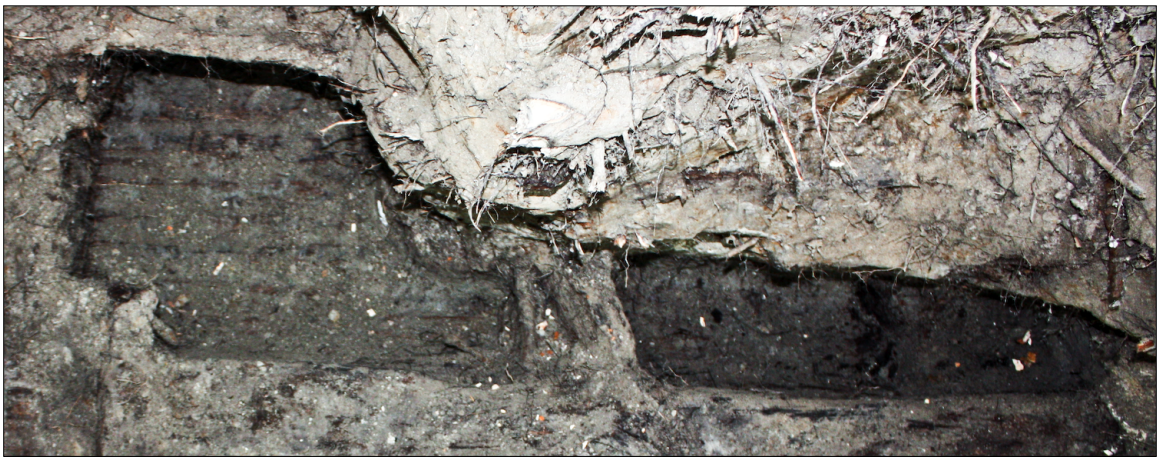


Left: The partial sight glass from Trench 3 is 2.75 inches long. .56 diameter, and .03 inches thick. There are two breaks running the length of the tube.
Right: Samples of coal located in Trench 2.

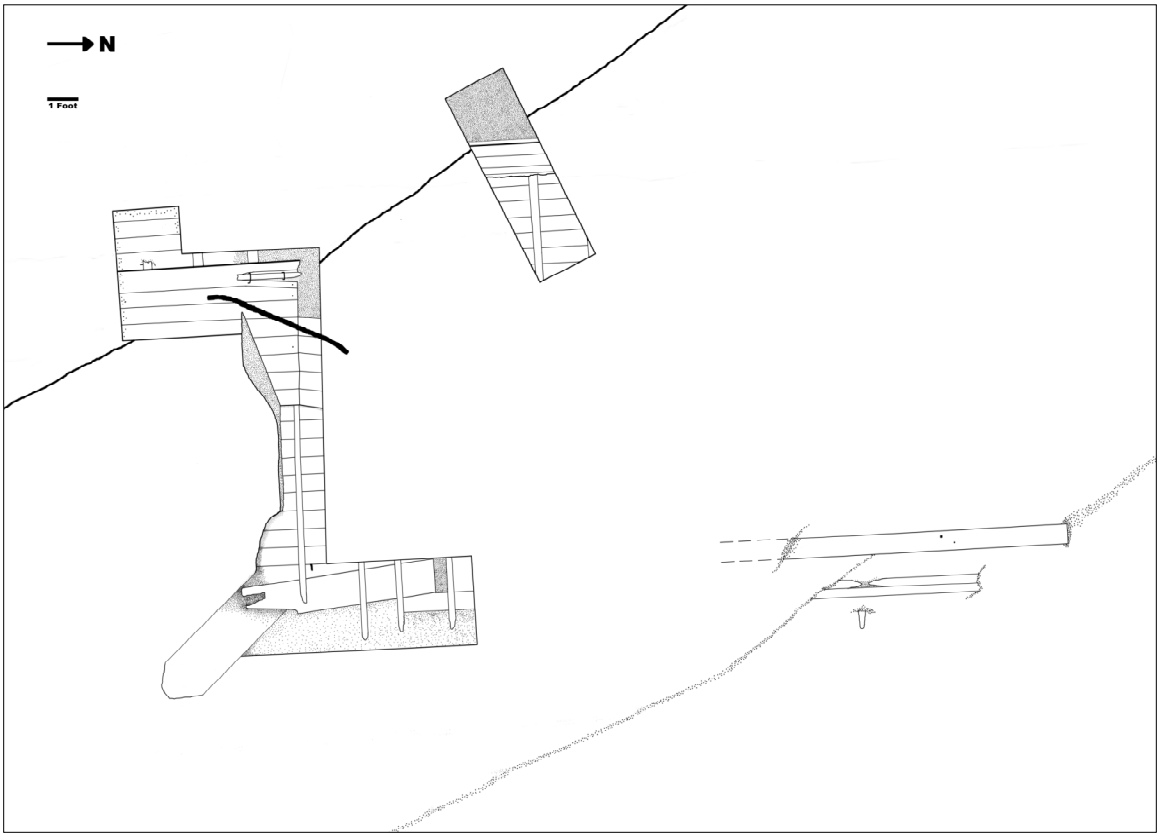
MHM recorded the metal artifacts below and re-buried them during the trench back-filling process, wrapped in orange tape.

The Red Mill Wreck site after backfilling Trenches 2 and 3 on 30 August 2013.

MHM observed specific site sedimentation build-up patterns and near-wreck characteristics that will assist investigations of the wreck in the future. Firstly, in the upper matrix of both trenches MHM found decayed wood and organic material deposited in the recent past by the river's current. Below that level, as stated previously, ceiling planking has survived intact in Trenches 1 and 2 but is not present in Trench 3, downstream of the others. MHM has determined that a thick, brown matrix of the consistency of finely mulched wood represents the remains of the ceiling planking in Trench 3, nearly completely degraded. When encountered, it initially resembles a layer of planking but upon cleaning, it is revealed to be similar to compacted sawdust, comparable to dunnage. However, some degraded fragments of ceiling planking still attached to the molded side of the floors in Trench 3 indicate the 'fill' was formerly part of the wreck. It is detritus and can be removed without harming the wreck. Furthermore, a perfect indicator of when the excavator is nearing the actual wreck is the presence of a consistent layer of smooth gray clay-like silt that stands out along the entire surface of all parts of the wreck. When this layer is reached, the wreck is about .25 of an inch below it. MHM's hypothesis concerning the consistent deposition of the gray silt layer, even underneath the decayed ceiling planking, supposes that the main deck and possibly the superstructure of the vessel remained intact for years, possibly decades after the boat was abandoned. During that time the boat's hold would have been inundated with water and become waterlogged. Once the superstructure and deck wore away and the decayed ceiling planking was suspended stagnant in the water column, a layer of gray clay-like silt was laid down in one event and then the river receded, settling the wood detritus onto the layer of clay-like silt. In this way the gray silt could be evenly deposited under the decayed ceiling planking in Trench 3 while also being placed on the top of the ceiling planking in Trench 2. Further, this theory explains the gray clay-like silt adhered to the exposed inner face of the outer hull strakes in both Trenches 2 and 3 and on top of the floors and the hull's inner and outer surface in Trench 3.



The western section of Trench 2, even after cleaning, has remnants of the gray clay-like silt layer adhering to the inner surface of the outer hull strakes.



The Red Mill Wreck site plan incorporating data from MHM's 2012 and 2013 documentations.

Conclusion

MHM's documentation of the Red Mill Wreck remains a priority for Headwaters Mississippi River nautical archaeological research. In order to continue the documentation of this site, certain conditions must be met. Due to the condition of the soft wood the wreck is comprised of, normal underwater excavation using water dredges during normal or high water conditions is not an option for this site. Therefore, any work on the wreck must be conducted during low water and traditional terrestrial techniques will be employed. This stipulation makes scheduling an excavation project difficult because Mississippi River water levels cannot be predicted. MHM would like to establish an endowment dedicated to the investigation of this site that can be utilized during low water conditions. MHM's commitment to finding answers about the Red Mill Wreck's construction, history, and identification will continue as monetary funds and conditions allow.

References

Aitkin Age. 6 September 1890.

Knox, Walter F. 1960. Pioneer Days in Aitkin County. *Aitkin Independent Age*. 8 December, 16. Aitkin, MN.